Netopia™ 3346-ENT ADSL Router

Getting Started Guide

netopia®

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Part Number

For additional copies of this electronic manual, order Netopia part number 6161151-00-01

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Chapter 1

Introduction

Overview

The Netopia 3346-ENT ADSL Router is a full-featured, stand-alone DSL router for connecting diverse local area networks (LANs) to the Internet and other remote networks. The Netopia 3346-ENT ADSL Router uses a high performance ADSL line to provide your whole network with a high-speed connection to the outside world.

This section covers the following topics:

- "Features and Capabilities" on page 1-5
- "How to Use this Guide" on page 1-6

Features and Capabilities

The Netopia 3346-ENT ADSL Router provides the following features:

- ADSL WAN interface supports asymmetric data rates from 32 Kbps to 8 Mbps downstream and 32 Kbps to 800 Kbps upstream over an RJ-11 interface
- ADSL WAN interface supports ADSL Annex A (POTS, T1.413, G.992.1, G.992.2)
- Interoperable with all major ADSL DSLAM vendors
- LAN interface: four port 10/100BaseTX Ethernet switch with Auto-crossover support, RJ-45
- Support for up to 8 ATM (AAL5) PVCs
- Bridged or routed Ethernet encapsulation, LLC/SNAP and VC Multiplexing (RFC 1483/RFC 2684)
- 1.610 OAM F5 Loopback
- ATM QoS: UBR, CBR
- Point-to-Point Protocol (PAP/CHAP authentication)
- PPP over Ethernet Gateway
- PPP over ATM Gateway: LLC and VC Multiplexing
- PPP over Ethernet pass-through
- Transparent bridging option
- Support for IP routing for Internet connectivity
- Numbered or unnumbered WAN interface
- Support for Ethernet LANs with up to eight Ethernet IP subnets

- NAT/NAPT, Multi-NAT, and DHCP (client, server, and relay) for security and convenience
- DNS proxy
- IP Multicast Forwarding, IGMP V1, V2
- RIP1 and RIP2, static routes
- IP QoS: TOS bit prioritization
- VPN Pass-through for PPTP and IPSec
- Built-in VPN gateway features offer support for up to 15 PPTP or IPSec VPN tunnels
- IPSec implementation supports DES or 3DES encryption, MD5 or SHA1 encapsulation, and manual or IKE keying
- Built-in firewall protects LAN resources from Internet intruders
- Backup Default Gateway feature with an external router enables high-availability solutions
- Menu-driven or CLI interfaces via Telnet
- Easy Setup with menu-driven interface
- Tiered Access, 2 levels of configuration access
- Configuration Management, up to 3 backup configurations
- TFTP download/upload of new firmware and configuration files
- System diagnostics and logs
- SNMP V1 and V2 (read/write access)
- Management utilities: ICMP ping, trace route, Telnet client, and Syslog client
- Status lights (LEDs) for easy monitoring and troubleshooting
- Wall-mountable, Bookshelf (Side-stackable), or Desktop-stackable design for efficient space usage

How to Use this Guide

In addition to the documentation contained in the accompanying *Firmware User's Guide*, this guide is designed to get you up and running and connected to your local area network and the Internet. It is intended to be viewed on-line, using the powerful features of the Adobe Acrobat Reader. The information display has been deliberately designed to present the maximum information in the minimum space on your screen. You can keep this document open while you perform any of the procedures described, and find useful information about the procedure you are performing.

You can also print out all of the manual, or individual sections, if you prefer to work from hard copy rather than on-line documentation. The pages are formatted to print on standard 8 1/2 by 11 inch paper. We recommend that you print on 3-hole punched paper, so that you can put the pages in a binder for future reference.

This guide is organized into chapters describing the Netopia 3346-ENT's advanced features. You may want to read each chapter's introductory section to familiarize yourself with the various features available.

Use the guide's table of contents and index to locate informational topics.

Chapter 2

Making the Physical Connections

This section tells you how to make the physical connections to your Netopia 3346-ENT ADSL Router. This section covers the following topics:

- "Find a Location" on page 2-1
- "What You Need" on page 2-1
- "Identify the Connectors and Attach the Cables" on page 2-3
- "Netopia 3346-ENT ADSL Router Status Lights" on page 2-5

Find a Location

When choosing a location for the Netopia ADSL Router, consider:

- Available space and ease of installation
- Physical layout of the building and how to best use the physical space available for connecting your Netopia ADSL Router to the LAN
- Available wiring and jacks
- Distance from the point of installation to the next device (length of cable or wall wiring)
- Ease of access to the front of the unit for configuration and monitoring
- Ease of access to the back of the unit for checking and changing cables
- Cable length and network size limitations when expanding networks

For small networks, install the Netopia 3346-ENT near one of the LANs. For large networks, you can install the Netopia 3346-ENT in a wiring closet or a central network administration site.

What You Need

Locate all items that you need for the installation.

Included in your router package are:

- The Netopia 3346-ENT ADSL Router
- A power adapter and cord
- One Category 5 Ethernet cable
- One DSL WAN (or Line) cable
- The Netopia CD containing software and documentation

You will need:

- A Windows–based PC or a Macintosh computer with Ethernet connectivity for configuring the Netopia 3346-ENT. This may be built-in Ethernet or an add-on card, with TCP/IP installed and configured. See "Sharing the Connection" on page 4-1.
- A DSL wall outlet wired for a connection to a telephone carrier who supports Asymmetric Digital Subscriber Line (ADSL) connections.

Important Safety Instructions

CAUTION: Depending on the power supply provided with the product, either the direct plug-in power supply blades, power supply cord plug or the appliance coupler serves as the main power disconnect. It is important that the direct plug-in power supply, socket-outlet or appliance coupler be located so it is readily accessible.

CAUTION (North America Only): For use only with a CSA Certified or UL Listed Limited Power Source or Class 2 power supply, rated 12Vdc, 1.5A.

CAUTION (Europe Only): For use only with a GS approved Limited Power Source, rated 12Vdc, 1.5A.

TELECOMMUNICATION INSTALLATION CAUTIONS

When using your telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:

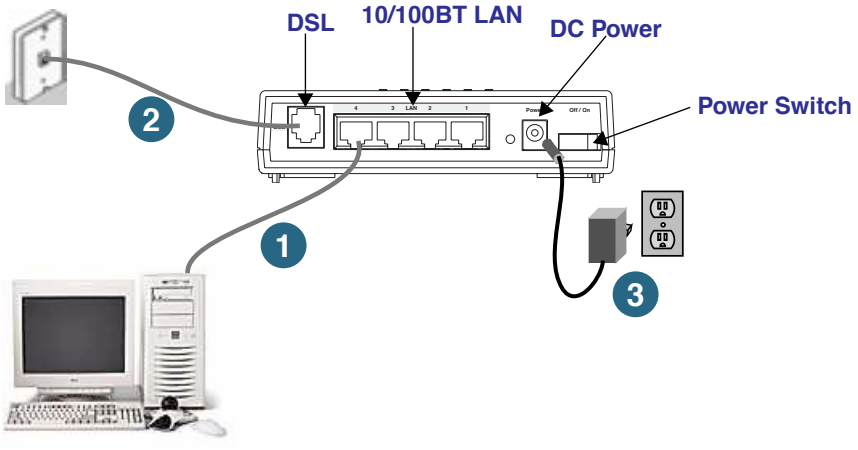
1. Do not use this product near water, for example, near a bathtub, wash bowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.
2. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electrical shock from lightning.
3. Do not use the telephone to report a gas leak in the vicinity of the leak.

SAVE THESE INSTRUCTIONS

Identify the Connectors and Attach the Cables

Identify the connectors and switches on the back panel and attach the necessary Netopia Router cables.

Connect your computer, DSL line, and power source as shown.



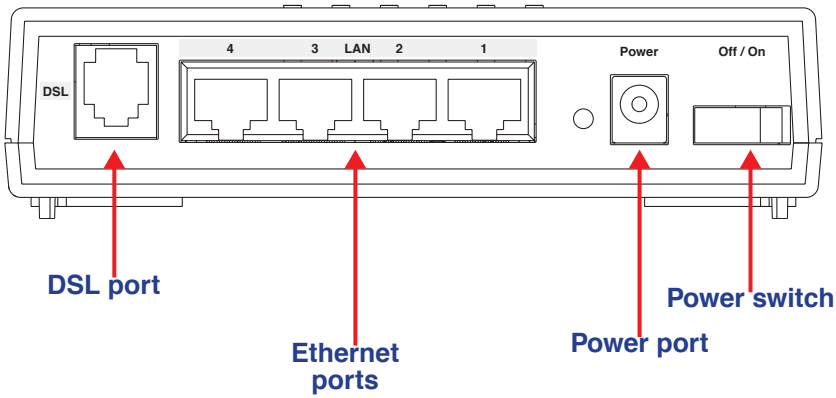
1. For a direct computer to router Ethernet connection, use the standard Ethernet cable included with your router.

2. Use the supplied DSL line cable to connect the router to your DSL wall outlet.

3. Connect the supplied power brick to a power outlet and the connector end to the router.

You should now have: the power adapter plugged in; the Ethernet cable connected between the router and your computer; and the DSL cable connected between the router and the DSL wall outlet.

Netopia 3346-ENT back panel



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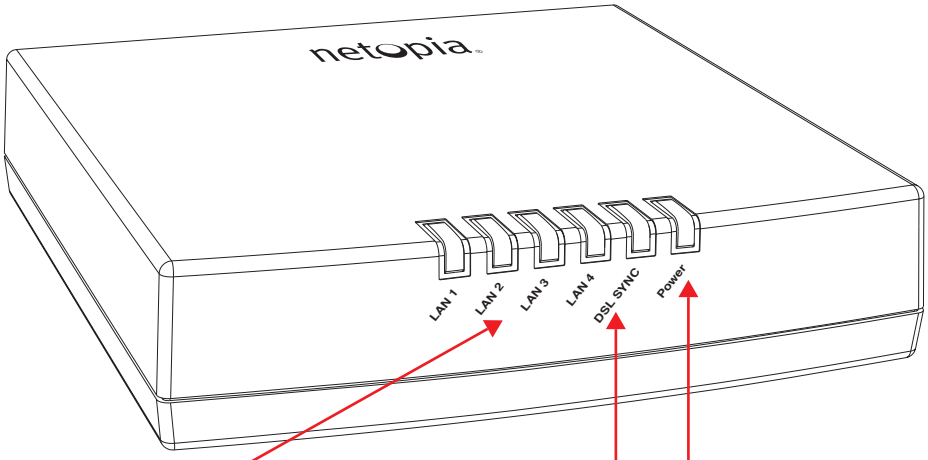
Port	Description
DSL port	An RJ-48 jack labeled DSL for your ADSL connection.
Ethernet ports	Four RJ-45 10/100Base-T Ethernet jacks. You can use one of these to configure the Netopia 3346-ENT. You can either connect your computer directly to an Ethernet port using the supplied Category 5 Ethernet cable, or connect both your computer and the Netopia 3346-ENT to an existing LAN environment. The Ethernet ports are auto-sensing, eliminating the need for a crossover cable.
Power port	A DC power adapter cable connection.
Power switch	An On/Off rocker switch for power.

Netopia 3346-ENT ADSL Router Status Lights

The figure below represents the Netopia 3346-ENT status light (LED) panel.

Netopia 3346-ENT status indicator lights



LAN 1, 2, 3, 4:
Solid **green** when Ethernet link is established
Blinks **green** when traffic is sent or received over the Ethernet

Power:
Solid **green** when the power is on

DSL Sync:
Blinks **green** with no line attached or training,
Solid **green** when trained with the DSL line

Chapter 3

Connecting to Your Local Area Network

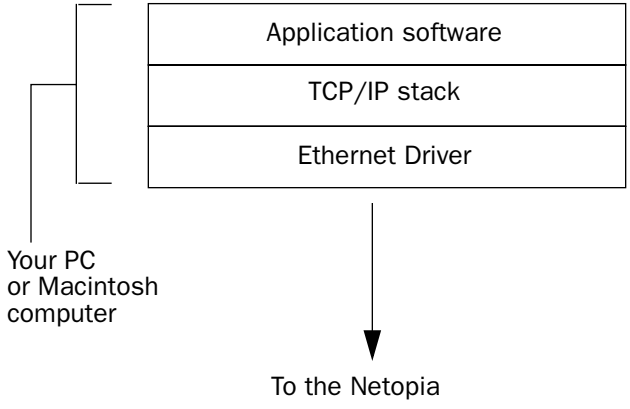
This chapter describes how to physically connect the Netopia 3346-ENT to your local area network (LAN). Before you proceed, make sure the Netopia 3346-ENT is properly configured. You can customize the router's configuration for your particular LAN requirements using console-based management (see "Telnet-Based Management" on page 5-1).

This section covers the following topics:

- "Readying Computers on Your Local Network" on page 3-1
- "Connecting to an Ethernet Network" on page 3-2

Readying Computers on Your Local Network

PC and Macintosh computers must have certain components installed before they can communicate through the Netopia 3346-ENT. The following illustration shows the minimal requirements for a typical PC or Macintosh computer.



Application software: This is the software you use to send e-mail, browse the World Wide Web, read newsgroups, etc. These applications may require some configuration. Examples include the Eudora e-mail client and the Web browsers Microsoft Internet Explorer and Netscape Navigator.

TCP/IP stack: This is the software that lets your PC or Macintosh computer communicate using Internet protocols. TCP/IP stacks must be configured with some of the same information you used to configure the Netopia 3346-ENT. There are a number of TCP/IP stacks available for PC computers. Windows 95 includes a built-in TCP/IP stack. Macintosh computers use either MacTCP or Open Transport. See "Configuring TCP/IP on Windows-based Computers" on page 4-1. Macintosh computers use either MacTCP or Open Transport. See "Configuring TCP/IP on Macintosh Computers" on page 4-4.

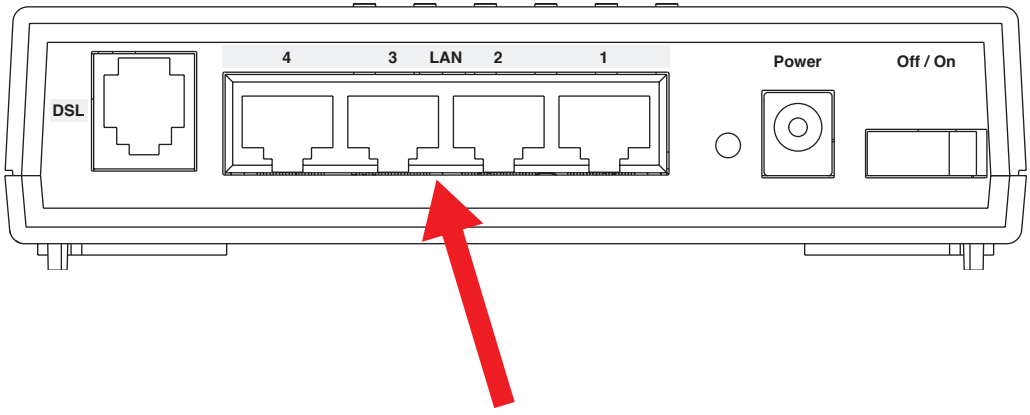
Ethernet: Ethernet hardware and software drivers enable your PC or Macintosh computer to communicate on the LAN.

Once the Netopia 3346-ENT is properly configured and connected to your LAN, PC and Macintosh computers that have their required components in place will be able to connect to the Internet or other remote IP networks.

Connecting to an Ethernet Network

You can connect a standard 10/100Base-T Ethernet network to the Netopia 3346-ENT using any of its Ethernet ports.

Netopia 3346-ENT back panel

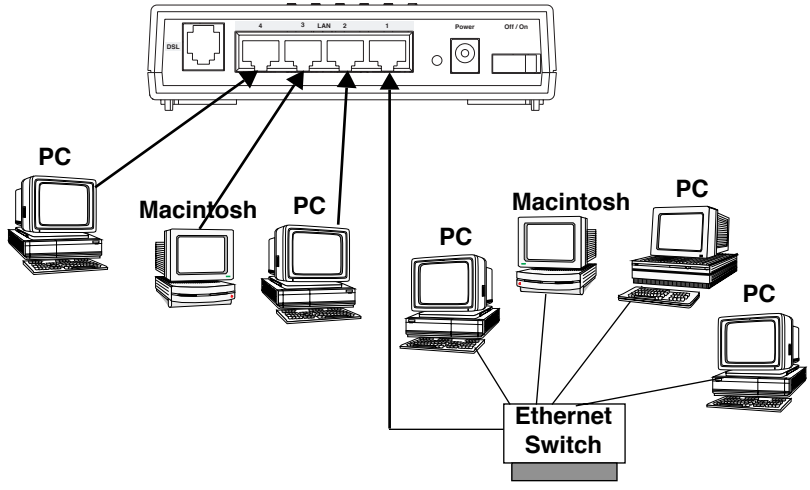


If you add devices connected through a hub or switch, connect the hub or switch to an Ethernet port on the Netopia 3346-ENT.

The Netopia 3346-ENT in a 10/100Base-T network

To connect your 10/100Base-T network to the Netopia 3346-ENT through the Ethernet port, use standard Category 5 Ethernet cables with RJ-45 connectors.

You can attach additional devices using standard Category 5 Ethernet cables (not provided) connected to a 10- or 100Base-T Ethernet hub or switch. The ports on the router will auto detect 10- or 100Base-T. Crossover cables are not required.



Chapter 4

Sharing the Connection

Once you have set up your physical local area network, you will need to configure the TCP/IP stack on each client workstation connected to your Netopia 3346-ENT. This chapter describes how to configure TCP/IP for both Windows-based and Macintosh computers.

This chapter explains the following topics:

- "Configuring TCP/IP on Windows-based Computers" on page 4-1
- "Configuring TCP/IP on Macintosh Computers" on page 4-4

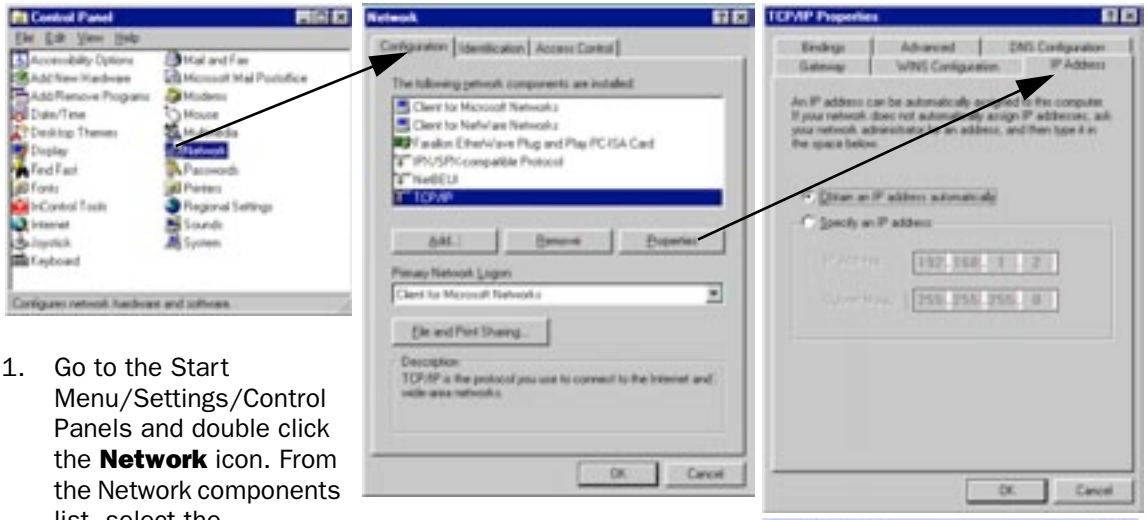
Configuring TCP/IP on Windows-based Computers

Configuring TCP/IP on a Windows computer requires the following:

- An Ethernet card (also known as a network adapter)
- The TCP/IP protocol must be "bound" to the adapter or card

Dynamic configuration (recommended)

To configure your PC for dynamic addressing do the following:



1. Go to the Start Menu/Settings/Control Panels and double click the **Network** icon. From the Network components list, select the **Configuration** tab.
2. Select **TCP/IP–>Your Network Card**. Then select **Properties**. In the TCP/IP Properties screen, select the **IP Address** tab. Click "**Obtain an IP Address automatically**".
3. Click on the **DNS Configuration** tab. Click **Disable DNS**. DNS will be assigned by the router with DHCP.
4. Click **OK** in this window and the next window. When prompted, reboot the computer.

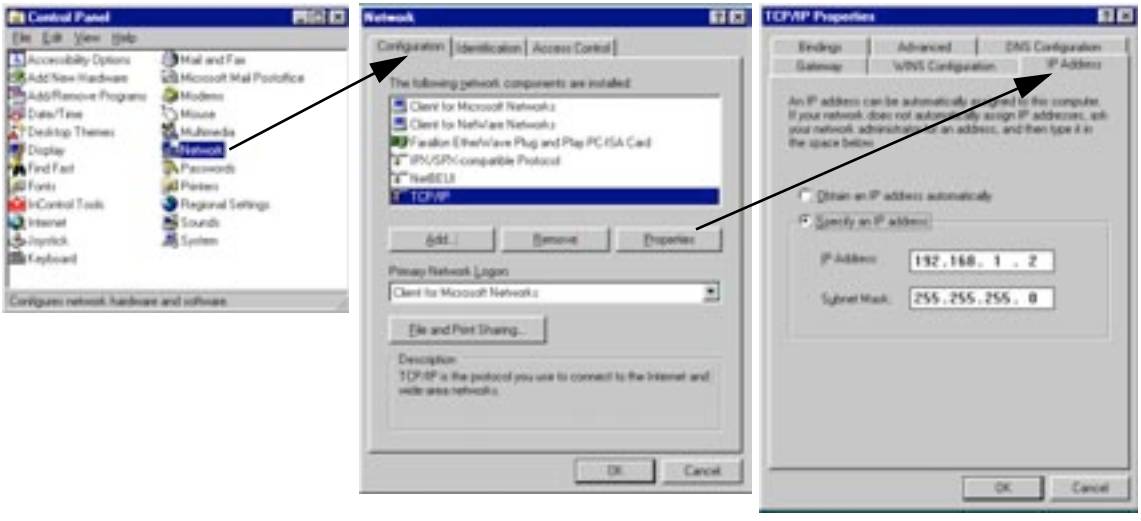
Note: You can also use these instructions to configure other computers on your network to accept IP addresses served by the Netopia 3346-ENT.

Static configuration (optional)

If you are manually configuring for a fixed or static IP address, perform the following:

1. Go to Start Menu/Settings/Control Panels and double click the **Network** icon. From the Network components list, select the **Configuration** tab.
2. Select **TCP/IP–>Your Network Card**. Then select **Properties**. In the TCP/IP Properties screen, select the **IP Address** tab. Click "**Specify an IP Address**."

   Enter the following:
   IP Address: 192.168.1.2
   Subnet Mask: 255.255.255.0
   This address is an example of one that can be used to configure the router. Your ISP or network administrator may ask you to use a different IP address and subnet mask.



3. Click on the **Gateway** tab (shown below). Under "New gateway," enter **192.168.1.1**. Click **Add**. This is the Netopia 3346-ENT's pre-assigned IP address.

Click on the **DNS Configuration** tab. Click **Enable DNS**. Enter the following information:

Host: Type the name you want to give to this computer.

Domain: Type your domain name. If you don't have a domain name, type your ISP's domain name; for example, netopia.com.

DNS Server Search Order: Type the primary DNS IP address given to you by your ISP. Click **Add**. Repeat this process for the secondary DNS.

Domain Suffix Search Order: Enter the same domain name you entered above.

4. Click **OK** in this window and the next window. When prompted, reboot the computer.

Note: You can also use these instructions to configure other computers on your network with manual or static IP addresses. Be sure each computer on your network has its own IP address.

Configuring TCP/IP on Macintosh Computers

The following is a quick guide to configuring TCP/IP for MacOS computers. Configuring TCP/IP in a Macintosh computer requires the following:

- You must have either Open Transport or Classic Networking (MacTCP) installed.

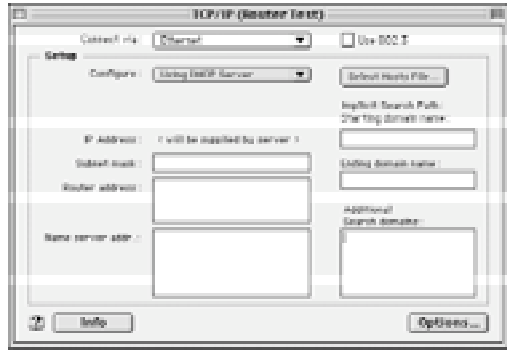
  If you want to use the Dynamic Host Configuration Protocol (DHCP) server built into your Netopia 3346-ENT to assign IP addresses to your Macintoshes, you must be running Open Transport, standard in MacOS 8 and higher and optional in earlier system versions.

- You must have built-in Ethernet or a third-party Ethernet card and its associated drivers installed in your Macintosh.

Dynamic configuration (recommended)

The Dynamic Host Configuration Protocol (DHCP), which enables dynamic addressing, is enabled by default in the router. To configure your Macintosh computer for dynamic addressing do the following:

1. Go to the Apple menu. Select **Control Panels** and then **TCP/IP**.
2. With the TCP/IP window open, go to the Edit menu and select **User Mode**. Choose **Basic** and click **OK**.
3. In the TCP/IP window, select "**Connect via: Ethernet**" and "**Configure: Using DHCP Server**."



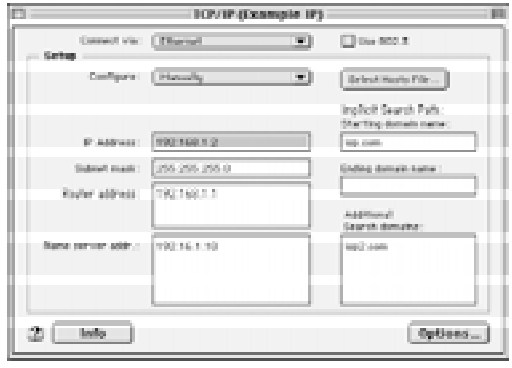
Note: You can also use these instructions to configure other computers on your network to accept IP addresses served by the Netopia 3346-ENT.

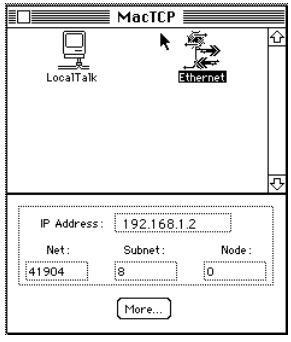
Static configuration (optional)

If you are manually configuring for a fixed or static IP address, perform the following:

1. Go to the Apple menu. Select **Control Panels** and then **TCP/IP** or **MacTCP**.
2. With the TCP/IP window open, go to the Edit menu and select **User Mode**. Choose **Advanced** and click **OK**.

   Or, in the MacTCP window, select **Ethernet** and click the **More** button.





3. In the TCP/IP window or in the MacTCP/More window, select or type information into the fields as shown in the following table.

Option:	Select/Type:
Connect via:	Ethernet
Configure:	Manually
IP Address:	192.168.1.2
Subnet mask:	255.255.255.0
Router or Gateway address:	192.168.1.1
Name server address:	Enter the primary and secondary name server addresses given to you by your ISP
Implicit Search Path: Starting domain name:	Enter your domain name; if you do not have a domain name, enter the domain name of your ISP

4. Close the TCP/IP or MacTCP control panel and save the settings.
5. If you are using MacTCP, you must restart the computer. If you are using Open Transport, you do not need to restart.

Note: You can use these instructions to configure other computers on your network to accept IP addresses served by the Netopia 3346-ENT.

You can also use these instructions to configure other computers on your network with manual or static IP addresses. Be sure each computer on your network has its own IP address.

More information about configuring your Macintosh computer for TCP/IP connectivity through a Netopia 3346-ENT can be found in Technote NIR_026, “Open Transport and Netopia Routers,” located on the Netopia Web site.

Chapter 5

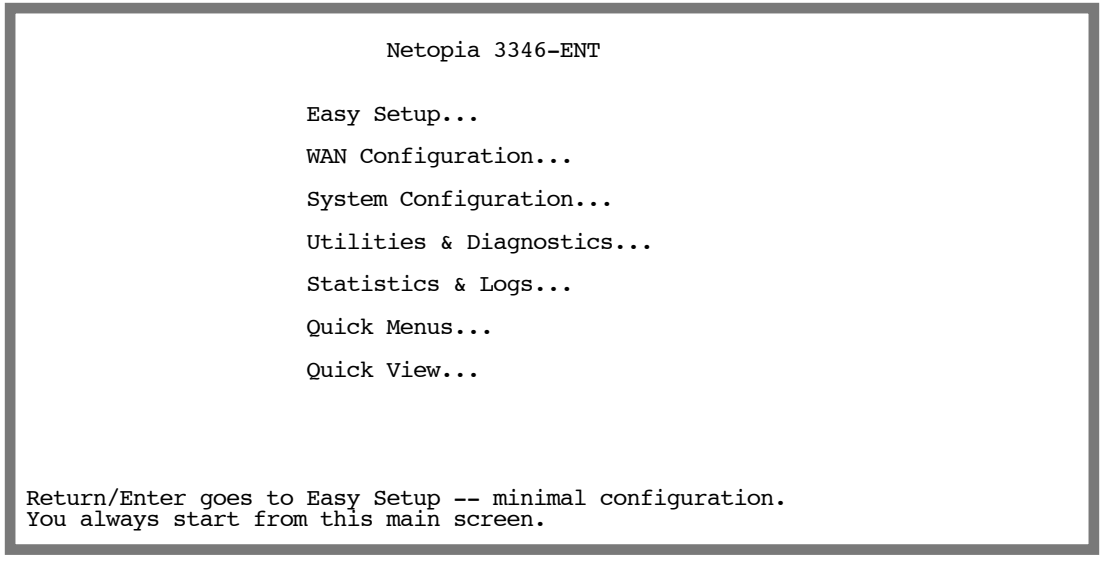
Telnet-Based Management

Telnet-based management is a menu-driven interface for the capabilities built into the Netopia 3346-ENT. Telnet-based management provides access to a wide variety of features that the router supports. You can customize these features for your individual setup. This chapter describes how to access the Telnet-based management screens.

This section covers the following topics:

- "Connecting through a Telnet Session" on page 5-2
- "Navigating through the Telnet Screens" on page 5-3

Telnet-based management screens contain seven entry points to the Netopia 3346-ENT configuration and monitoring features. The entry points are displayed in the Main Menu shown below:



- The **Easy Setup** menus display and permit changing the values contained in the default connection profile. You can use Easy Setup to initially configure the router directly through a Telnet session.

  Easy Setup menus contain up to five descendant screens for viewing or altering these values. The number of screens depends on whether you have optional features installed.

  This manual describes the Easy Setup menus to get you up and running quickly. For more advanced features offered in the menus listed below, see the *Firmware User's Guide*.

- The **WAN Configuration** menu displays and permits changing your connection profile(s) and default profile, creating or deleting additional connection profiles, and configuring or reconfiguring the manner in which you may be using the router to connect to more than one service provider or remote site.

- The **System Configuration** menus display and permit changing:
  - IP Setup
  - Filter Sets
  - IP Address Serving
  - Network Address Translation (NAT)
  - Date and Time
  - SNMP (Simple Network Management Protocol)
  - Security
  - Upgrade Feature Set
  - Change Device to a Bridge
  - Logging
- The **Utilities & Diagnostics** menus provide a selection of seven tools for monitoring and diagnosing the router's behavior, as well as for updating the firmware and rebooting the system.
- The **Statistics & Logs** menus display nine sets of tables and device logs that show information about your router, your network, and their history.
- The **Quick Menus** screen is a shortcut entry point to 22 of the most commonly used configuration menus that are accessed through the other menu entry points.
- The **Quick View** menu displays at a glance current real-time operating information about your router.

Connecting through a Telnet Session

Features of the Netopia 3346-ENT can be configured through the Telnet screens.

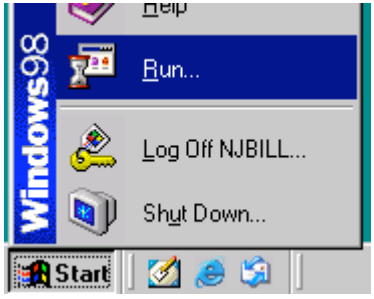
Before you can access the Telnet screens, you must have:

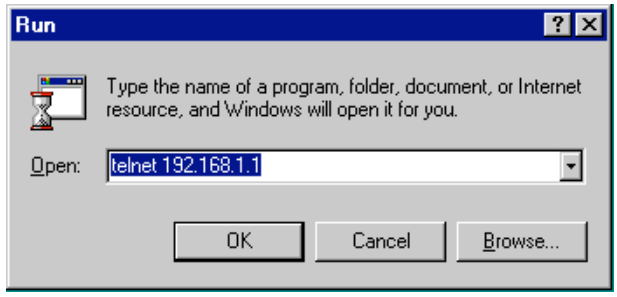
- A network connection locally to the router or IP access to the router.
- Telnet software installed on the computer you will use to configure the router

Configuring Telnet software

If you are configuring your router using a Telnet session, your computer must be running a Telnet software program.

- If you connect a PC with Microsoft Windows, you can use a Windows Telnet application or simply run Telnet from the Start menu.





- If you connect a Macintosh computer, you can use the NCSA Telnet program supplied on the Netopia 3346-ENT CD. You install NCSA Telnet by simply dragging the application from the CD to your hard disk.

Navigating through the Telnet Screens

Use your keyboard to navigate the Netopia 3346-ENT's configuration screens, enter and edit information, and make choices. The following table lists the keys to use to navigate through the Telnet screens.

To...	Use These Keys...
Move through selectable items in a screen or pop-up menu	Up, Down, Left, and Right Arrow
Set a change to a selected item or open a pop-up menu of options for a selected item like entering an upgrade key	Return or Enter
Change a toggle value (Yes/No, On/Off)	Tab
Restore an entry or toggle value to its previous value	Esc
Move one item up	Up arrow or Control + K
Move one item down	Down arrow or Control + O
Display a dump of the device event log	Control + E
Display a dump of the WAN event log	Control + F
Refresh the screen	Control + L

Chapter 6

Easy Setup

This chapter describes how to use the Easy Setup Telnet screens on your Netopia 3346-ENT. After completing the Easy Setup Telnet screens, your router will be ready to connect to the Internet or another remote site.

Easy Setup Telnet Screens

Using four Easy Setup Telnet screens, you can:

- Modify a connection profile for your router for the connection to your ISP or remote location
- Set up IP addresses and IP address serving
- Password–protect configuration access to your Netopia 3346-ENT

Accessing the Easy Setup Telnet screens

To access the Telnet screens, Telnet to the Netopia Router over your Ethernet network. See “Connecting through a Telnet Session” on page 5-2.

Note: Before continuing, make sure you have the information that your ISP or network administrator has given you for configuring the Netopia Router.

The Netopia Router’s first Telnet screen, Main Menu, appears in the terminal window of the attached PC or Macintosh computer when:

- The Netopia Router is turned on
- The computer is connected to the Netopia Router
- Telnet software is running and configured correctly

Quick Easy Setup Connection Path

This section may be all you need to do to configure your Netopia 3346-ENT ADSL Router. Your service provider will supply you with several parameter values. Below is a handy checklist:

DSL Line Configuration Screen

Trellis Coding Enabled	❑ On (default) or ❑ Off		
Fast Retrain Enabled	❑ On (default) or ❑ Off		
Wiring Type	❑ Tip/Ring (Inner Pair) (default) or ❑ AutoSense ❑ A/A1 (Outer Pair)		
Data Link Encapsulation	❑ RFC1483 (default)	RFC1483 Mode:	(for Bridged 1483 only) PPP over Ethernet (PPPoE)
	or	❑ Bridged 1483 (default) or ❑ Routed 1483	❑ Off (default) or ❑ On
	❑ PPP	PPP Mode:	
		❑ VC Multiplexed (default) or ❑ LLC SNAP	
Data Circuit VPI	0-255 (8 is default)	_____	
Data Circuit VPI	0-65535 (35 is default)	_____	

Easy Setup Profile Screen

Address Translation Enabled:	❑ Yes (default) or ❑ No		
IP Addressing:	❑ Numbered (default) or ❑ Unnumbered	(for Numbered IP Addressing) Local WAN IP Address: _____ Local WAN IP Mask: _____	(for Unnumbered IP Addressing) Remote IP Address: _____ Remote IP Mask: _____
(for PPP DLEs only) PPP Authentication:	❑ None (default), ❑ PAP or ❑ CHAP	(for PAP or CHAP) User Name (or Host Name): _____	(for PAP or CHAP) Password (or Secret): _____

IP Easy Setup Screen

Ethernet IP Address:	_____	(192.168.1.1 255.255.255.0 are defaults)
Ethernet Subnet Mask:	_____	
Domain Name:	_____	
Primary Domain Name Server:	_____	
Secondary Domain Name Server:	_____	
Default IP Gateway:	_____	

Easy Setup Security Configuration Screen

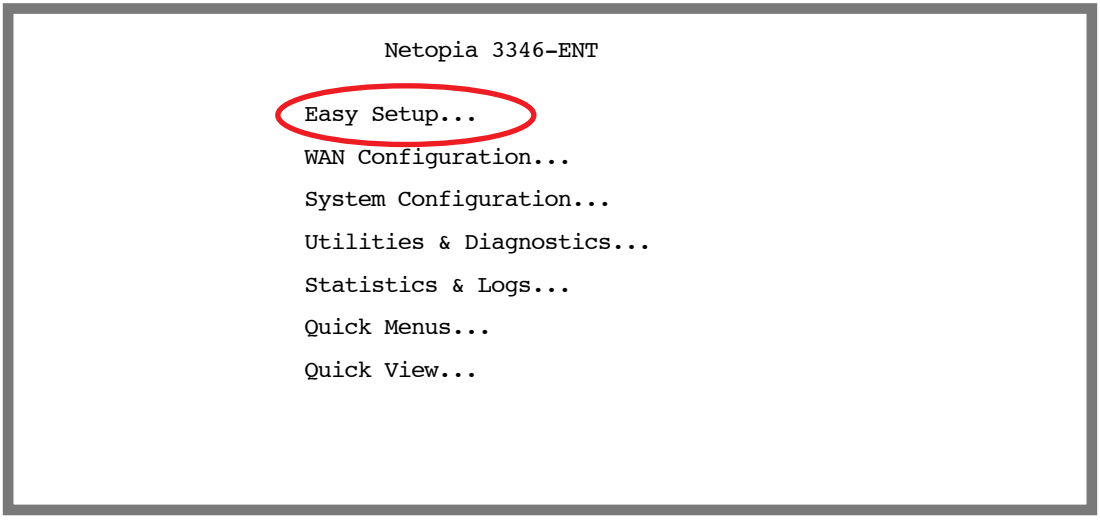
Write Access Name:	_____	Write Access Password:	_____

The following steps will get you up and running quickly:

1. Open a Telnet session to **192.168.1.1** to bring up the Main Menu.

   If you don't know how to do this, see "Connecting through a Telnet Session" on page 5-2.

   The Main Menu appears.



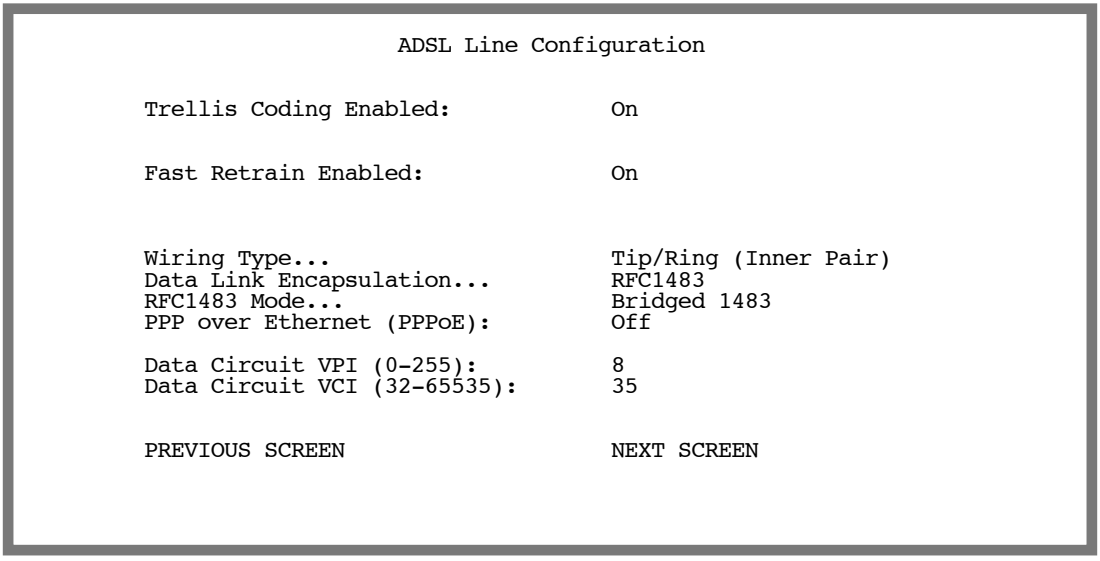
If you do not see the Main Menu, verify that:

- The computer used to view the Telnet screen has an Ethernet connection to the Netopia 3346-ENT's Ethernet port. See "Connecting through a Telnet Session" on page 5-2.
- Telnet is configured for the recommended values.
- You have entered the correct password, if necessary. Your Netopia 3346-ENT's Telnet access may be password protected from a previous configuration. See your system administrator to obtain the password.

  See the *Firmware User's Guide* chapter on "Troubleshooting" for more suggestions.

2. Select the first item on the Main Menu list, **Easy Setup**. Press Return to bring up the DSL Line Configuration menu screen.

1. DSL Line Configuration

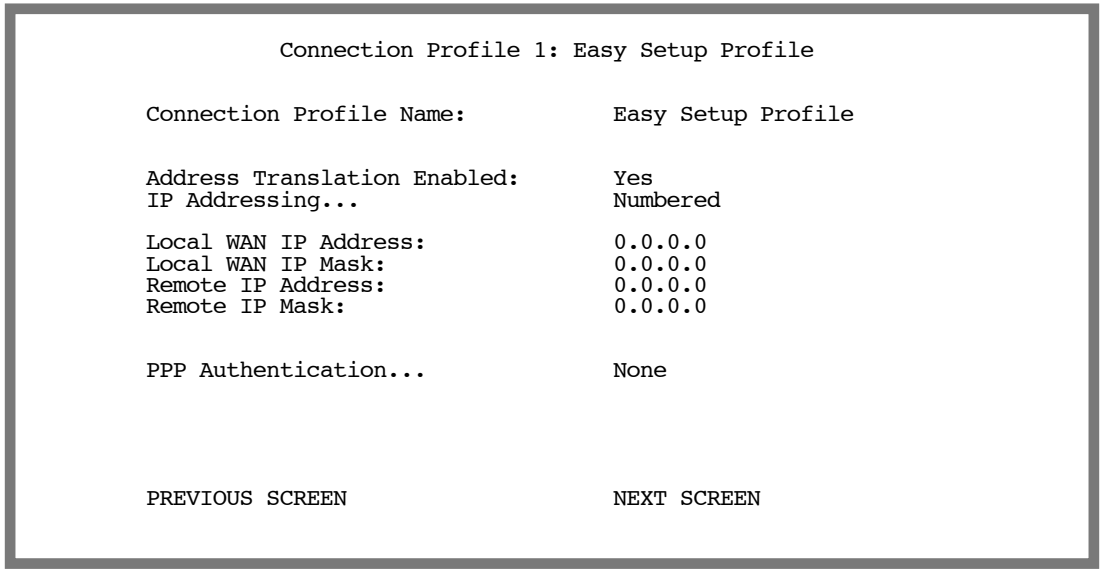


1. Select **Trellis Coding Enabled**. Toggle it to On (the default) or Off. Unless otherwise specified by your provider, you can accept this default.
2. Select **Fast Retrain Enabled**. Toggle it to On (the default) or Off. Unless otherwise specified by your provider, you can accept this default.
3. The **Wiring Type** pop-up menu allows you to choose the type of copper pair wiring in use at your location. Tip/Ring (Inner Pair) is the most common type, and you can usually leave this default. If there is a problem connecting, you can select AutoSense and the Router will attempt to detect the type and adjust itself accordingly. If you want to set it yourself, and you know that you have the reversed inner/outer pair type of wiring, choose A/A1 (Outer Pair) from the pop-up menu.
4. Select **Data Link Encapsulation** and from the pop-up menu choose either RFC1483 (the default) or PPP.
   - If you selected RFC1483, the next pop-up menu **RFC1483 Mode** offers the choice of Bridged 1483 or Routed 1483. If you select Bridged 1483, a new option **PPP over Ethernet (PPPoE)** appears. You can then toggle PPPoE **On** or **Off**. Choosing Routed 1483 hides the PPPoE option.
   - If you selected PPP, the next pop-up menu **PPP Mode** offers the choice of VC Multiplexed or LLC SNAP.
5. The next two fields, **Data Circuit VPI** and **Data Circuit VCI** are editable. Enter the Virtual Path Identifier and Virtual Channel Identifier values that your provider specifies. VPI 8/VCI 35 are the most common. Your provider must specify these values.
6. Press the Down arrow key until you reach **NEXT SCREEN**. Press Return to bring up the next screen.

2. Easy Setup Profile

The Easy Setup Profile screen is where you configure the parameters that control the Netopia 3346-ENT's connection to a specific remote destination, usually your ISP or a corporate site.

On a Netopia 3346-ENT you can add up to 15 more connection profiles, for a total of 16, although you can only use one at a time, unless you are using Virtual Private Networks (VPNs).


Connection Profile 1: Easy Setup Profile
Connection Profile Name: Easy Setup Profile
Address Translation Enabled: Yes
IP Addressing... Numbered
Local WAN IP Address: 0.0.0.0
Local WAN IP Mask: 0.0.0.0
Remote IP Address: 0.0.0.0
Remote IP Mask: 0.0.0.0
PPP Authentication... None
PREVIOUS SCREEN
NEXT SCREEN

Note: The appearance of this screen varies, depending on the settings in the previous screen.

1. To enable address translation, toggle **Address Translation Enabled** to **Yes** (the default). For more information on Network Address Translation, see the *Firmware User's Guide* chapter on "Multiple Network Address Translation (MultiNAT)".
2. From the **IP Addressing** menu item, choose between Unnumbered and Numbered addressing. Numbered is the default for ADSL. It assigns a unique IP address to the ADSL WAN interface, as required by most ISPs' routers. Unnumbered may be used for simpler configurations such as point-to-point applications.

If you selected Numbered,

- Select the editable field labeled **Local WAN IP Address**.

  The default address is 0.0.0.0, which allows for dynamic addressing, when your ISP assigns an address using DHCP or PPPoE. However, you can enter another specific address if you want to use static addressing. In that case, enter the local WAN address your ISP gave you. Press Return.

- Select the editable field labeled **Local WAN IP Mask**. Enter the mask address your ISP gave you or leave 0.0.0.0 when using DHCP or PPPoE. Press Return.

If you selected Unnumbered, the following fields appear:

- Select the editable field labeled **Remote IP Address** and enter the remote IP address. Press Return.
- Select the editable field labeled **Remote IP Mask** and enter the remote mask address. Press Return.

3. If you selected PPP data link encapsulation in the DSL Line Configuration screen, a **PPP Authentication** menu item appears. The authentication protocol and user name/password combinations you enter must be assigned or agreed to in advance between you and your ISP. Select **PPP Authentication** and press Return.

   From the pop-up menu that appears, select the authentication method your ISP uses: PAP (Password Authentication Protocol), CHAP (Challenge Handshake Authentication Protocol), or None.

   - PAP is the most common, and requires you to enter a User Name and Password in the next two fields.
   - CHAP requires you to enter a Host Name and Secret in the next two fields.

4. Press the Down arrow key until you reach **NEXT SCREEN**. Press Return to bring up the next screen.

3. IP Easy Setup

The IP Easy Setup screen is where you enter information about your Netopia Router's:

- Ethernet IP address
- Ethernet Subnet mask
- Domain Name
- Domain Name Server IP address
- Default gateway IP address

Consult with your network administrator to obtain the information you will need. For more information about setting up IP, see the *Firmware User's Guide* chapter on "IP Setup".

```
                              IP Easy Setup


          Ethernet IP Address:                192.168.1.1
          Ethernet Subnet Mask:               255.255.255.0

          Domain Name:                        isp.net
          Primary Domain Name Server:         209.3.224.21
          Secondary Domain Name Server:       209.3.224.20

          Default IP Gateway:                 127.0.0.2

          IP Address Serving:                 On

          Number of Client IP Addresses:      100
          1st Client Address:                 192.168.1.100



          PREVIOUS SCREEN                     NEXT SCREEN

Enter an IP address in decimal and dot form (xxx.xxx.xxx.xxx).
Set up the basic IP & IPX attributes of your Netopia in this screen.
```

1. Select **Ethernet IP Address** and enter the first IP address from the IP address range your ISP has given you only if you are not using Network Address Translation (NAT). This will be the Netopia Router's IP address.

   The Ethernet IP Address defaults to an address (192.168.1.1) within a range reserved by the Internet address administration authority for use within private networks.

Because this is a private network address, it should never be directly connected to the Internet. Using NAT for all your connection profiles will ensure this restriction. See the *Firmware User's Guide* chapter on "Multiple Network Address Translation (MultiNAT)" for more information.

2. Select **Ethernet Subnet Mask** and enter the subnet mask your ISP has given you only if you are not using NAT. The Ethernet Subnet Mask defaults to a standard class mask derived from the class of the Ethernet IP address you entered in the previous step.
3. Press the Down arrow key until the editable field labeled **Domain Name** is highlighted.
4. If you have a static IP Address, type the Domain Name your ISP gave you. Press Return. The next field **Primary Domain Name Server** will be highlighted. If you are using DHCP or PPPoE, leave this field blank and skip Step 5.
5. Type the Primary Domain Name Server address your ISP gave you. Press Return. A new field **Secondary Domain Name Server** will appear. If your ISP gave you a secondary domain name server address, enter it here. Press Return until the next field **Default IP Gateway** is highlighted.
6. If you do not enter a **Default IP Gateway** value, the router defaults to the remote IP address you entered in the Easy Setup connection profile. If the Netopia Router does not recognize the destination of any IP traffic, it forwards that traffic to this gateway.

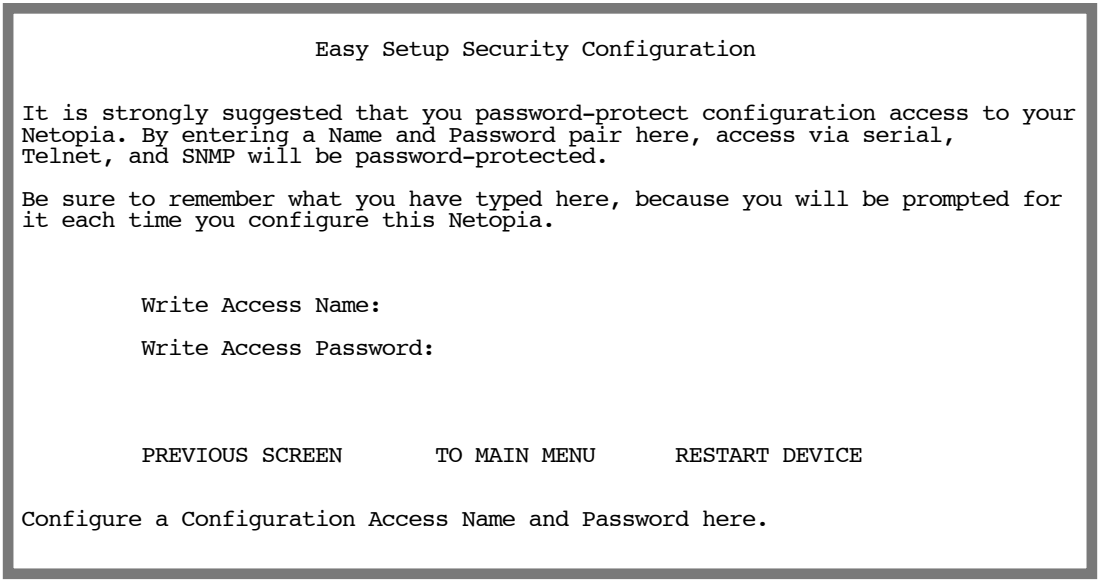
   Do not confuse the remote IP address and the Default IP Gateway's address with the block of local IP addresses you may receive from your ISP. You use the local IP addresses for the Netopia 3346-ENT's Ethernet port and for IP clients on your local network. The remote IP address and the default gateway's IP address should point to your ISP's router.
7. Toggle **IP Address Serving** to On or Off, depending on whether you want the device's IP address server to supply dynamic IP addresses to your client workstations. Normally, you would accept the default On so that workstations on your LAN can have IP addresses assigned dynamically from the router.
8. The IP address server will provide 100 IP addresses automatically to workstations on your LAN. You only need to change the **Number of Client IP Addresses** if you have some other IP addressing scheme.
9. By default, the **1st Client Address** is 192.168.1.100, based on the device's default IP address of 192.168.1.1. You only need to change this if you have some other IP addressing scheme.
10. Press the Down arrow key until you reach **NEXT SCREEN**. Press Return.

4. Easy Setup Security Configuration

The Easy Setup Security Configuration screen lets you password-protect your Netopia 3346-ENT. Input your **Write Access Name** and **Write Access Password** with names or numbers totaling up to eleven digits.

If you password protect the Telnet screens, you will be prompted to enter the name and password you have specified every time you log in to the Telnet screens. Do not forget your name and password. If you do, you will be unable to access any of the configuration screens.

Additional security features are available. See the *Firmware User's Guide* chapter on "Security".


Easy Setup Security Configuration
It is strongly suggested that you password-protect configuration access to your Netopia. By entering a Name and Password pair here, access via serial, Telnet, and SNMP will be password-protected.
Be sure to remember what you have typed here, because you will be prompted for it each time you configure this Netopia.
Write Access Name:
Write Access Password:
PREVIOUS SCREEN
TO MAIN MENU
RESTART DEVICE
Configure a Configuration Access Name and Password here.

The final step in configuring the Easy Setup Telnet screens is to restart the Netopia 3346-ENT, so that the configuration settings take effect.

1. Select **RESTART DEVICE**. A prompt asks you to confirm your choice.
2. Select **CONTINUE** to restart the Netopia Router and have your selections take effect.

Note: You can also restart the system at any time by using the Restart System utility in the Utilities and Diagnostics menu, or by turning the Netopia Router off and on with the power switch.

The Router will restart and your configuration settings will be activated. You can then Exit or Quit your Telnet application.

Easy Setup is now complete.

Appendix A

Technical Specifications and Safety Information

Description

Dimensions: 13.5 cm (w) x 13.5 cm (d) x 3.5 cm (h) 5.25” (w) x 5.25” (d) x 1.5” (h)

Communications interfaces: The Netopia 3346-ENT Router has an RJ-45 jack for WAN line connections and a 4–port 10/100Base-T Ethernet switch for your LAN connections.

Power requirements

- 12 VDC input
- 1.0 amps

Environment

Operating temperature: 0° to +40° C

Storage temperature: 0° to +70° C

Relative storage humidity: 20 to 80% noncondensing

Software and protocols

Software media: Software preloaded on internal flash memory; field upgrades done via download to internal flash memory via TFTP or web upload.

Routing: TCP/IP Internet Protocol Suite, RIP

WAN support: PPPoE, DHCP, static IP address

Security: PAP, UI password security

Management/configuration methods: HTTP (Web server), Telnet

Diagnostics: Ping, event logging, routing table displays, statistics counters, web-based management

Agency approvals

North America

Safety Approvals:

- United States – UL: 1950 Third Edition
- Canada – CSA: CAN/CSA-C22.2 No. 950-95

EMC:

- United States – FCC Part 15 Class B
- Canada – ICES-003

Telecom:

- United States – FCC Part 68
- Canada – CS-03

International

Safety Approvals:

- Low Voltage (European directive) 73/23
- EN60950 (Europe)

EMI Compatibility:

- 89/336/EEC (European directive)
- EN55022:1994 CISPR22 Class B
- EN300 386 V1.2.1

Regulatory notices

European Community. This Netopia product conforms to the European Community CE Mark standard for the design and manufacturing of information technology equipment. This standard covers a broad area of product design, including RF emissions and immunity from electrical disturbances.

The Netopia 3346-ENT complies with the following EU directives:

- Low Voltage, 73/23/EEC
- EMC Compatibility, 89/336/EEC, conforming to EN 55 022

Manufacturer's Declaration of Conformance

Note: **Warnings:**
This is a Class B product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures. Adequate measures include increasing the physical distance between this product and other electrical devices.
Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

United States. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio TV technician for help.

Service requirements. In the event of equipment malfunction, all repairs should be performed by our Company or an authorized agent. Under FCC rules, no customer is authorized to repair this equipment. This restriction applies regardless of whether the equipment is in or our of warranty. It is the responsibility of users requiring service to report the need for service to our Company or to one of our authorized agents. Service can be obtained at Netopia, Inc., 6001 Shellmound Street, Emeryville, California, 94608.

Note: Important
This product was tested for FCC compliance under conditions that included the use of shielded cables and connectors between system components. Changes or modifications to this product not authorized by the manufacturer could void your authority to operate the equipment.

Canada. This Class B digital apparatus meets all requirements of the Canadian Interference -Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Réglement sur le matériel brouilleur du Canada.

Declaration for Canadian users

The Canadian Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operation, and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to the certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution

Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.

Important Safety Instructions

Australian Safety Information

The following safety information is provided in conformance with Australian safety requirements:

Caution

DO NOT USE BEFORE READING THE INSTRUCTIONS: Do not connect the Ethernet ports to a carrier or carriage service provider's telecommunications network or facility unless: a) you have the written consent of the network or facility manager, or b) the connection is in accordance with a connection permit or connection rules.

Connection of the Ethernet ports may cause a hazard or damage to the telecommunication network or facility, or persons, with consequential liability for substantial compensation.

Caution

- The direct plug-in power supply serves as the main power disconnect; locate the direct plug-in power supply near the product for easy access.
- For use only with CSA Certified Class 2 power supply, rated 12VDC, 1.0A.

Telecommunication installation cautions

- Never install telephone wiring during a lightning storm.
- Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.
- Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
- Do not use the telephone to report a gas leak in the vicinity of the leak.

FCC Part 68 Information

a) This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On the bottom of this equipment is a label that contains, among other information, a product identifier in the format US:AAAEQ##TXXXX. If requested, this number must be provided to the telephone company.

b) List all applicable certification jack Universal Service Order Codes ("USOC") for the equipment: RJ11.

c) A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. A compliant telephone cord and modular plug is provided with this product. It is designed to be connected to a compatible modular jack that is also compliant. See installation instructions for details.

d) The REN is used to determine the number of devices that may be connected to a telephone line. Excessive RENs on a telephone line may result in the devices not ringing in response to an incoming call. In most but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company. For products approved after July 23, 2002, the REN for this product is part of the product identifier that has the format US:AAAEQ##TXXXX. The digits represented by ## are the REN without a decimal point (e.g., 03 is a REN of 0.3). For earlier products, the REN is separately shown on the label.

e) If this equipment, the Netopia 3300 Series router, causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

f) The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

g) If trouble is experienced with this equipment, the Netopia 3300 Series router, for repair or warranty information, please contact:

Netopia Technical Support
510-597-5400
www.netopia.com.

If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

h) This equipment not intended to be repaired by the end user. In case of any problems, please refer to the troubleshooting section of the Product User Manual before calling Netopia Technical Support.

i) Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information.

j) If your home has specially wired alarm equipment connected to the telephone line, ensure the installation of this Netopia 3300 Series router does not disable your alarm equipment. If you have questions about what will disable alarm equipment, consult your telephone company or qualified installer.

Electrical Safety Advisory

Telephone companies report that electrical surges, typically lightning transients, are very destructive to customer terminal equipment connected to AC power sources. This has been identified as a major nationwide problem. Therefore it is advised that this equipment be connected to AC power through the use of a surge arrestor or similar protection device.